

## Middle School Cadets Student Survey

This report describes the conduct and findings of a survey of Middle School Cadets. The survey was sponsored by The Civil Air Patrol Drug Demand Reduction Program, Maxwell Air Force Base who contracted with Developmental Research and Programs, Inc., of Seattle, Washington, to conduct the survey.

### *The Survey Instrument*

Middle School Cadets were surveyed using the *Communities That Care*® *Youth Survey*. This survey assesses the prevalence of risk and protective factors for substance abuse and other antisocial behaviors in adolescent populations (Hawkins, Catalano and Miller, 1992; Hawkins, Arthur and Catalano, in press). Risk and protective factors are divided into four primary domains: Community, School, Family, and Peer-Individual. In addition, the survey also assesses current substance use, current delinquency, and a variety of demographic variables. Appendix 1 provides a complete list of the risk and protective factors, substances, antisocial behaviors, and demographic items included in the survey.

Development of the *Communities That Care*® *Youth Survey* (CTC) began in 1994. Prior to its development a survey instrument did not exist for adolescent populations that comprehensively measured substance use as well as risk and protective factors. Scientifically sound prevalence data on risk behaviors, as well as risk and protective factors, are required to support needs assessment, prevention planning, and intervention planning at the local level. The lack of a comprehensive, easily administered, data gathering instrument has been a significant obstacle to effective community mobilization. The development of the *Communities That Care*® *Youth Survey* was designed to overcome these difficulties.

The current form of the survey was developed based on data collected from statewide surveys in Kansas, Maine, Oregon, and Washington of 6th, 8th, 10th, and 12th grade students, conducted in 1994 and 1995. Thirty different risk and protective factor constructs are measured in the survey. An average of about four survey items are used to measure each risk and protective factor construct. Reliability for the constructs is good (average Cronbach's alpha = .78). A complete report on the survey's development and its psychometric properties can be found in Pollard, Hawkins, Catalano, & Arthur (1997).

### ***The Survey Sample***

Survey plans called for a sample of 6th, 7th, and 8th grade Middle School Cadets, representing various states. A total of 291 scoreable surveys were returned to DRP for scoring and analysis. This represents approximately 58% of all Middle School Cadets who were surveyed and about 23% of all Middle School Cadets total.

### ***Survey Norms and Comparative Data***

Comparison data and survey norms for assessing the meaning of the Middle School Cadets student survey results comes from two sources. First, for comparison data regarding alcohol, tobacco, and other drug (ATOD) use, data is primarily drawn from the 1996 findings of the *Monitoring the Future* (MTF) survey. This survey, conducted annually by the University of Michigan, is designed to provide ATOD prevalence information on a sample of 8th, 10th, and 12th graders representative of the United States as a whole. A total of 47,700 students participated in the 1996 survey. For many years, the MTF survey has served as the primary reference for determining the prevalence of ATOD use among adolescents in the United States. The *Communities That Care*® Youth Survey measures ATOD use with the same items used in the *Monitoring the Future* survey.

The Six-State study was funded by the Center for Substance Abuse Prevention during the years 1993-1996. This project supported the development of a student survey instrument measuring risk and protective factors predictive of ATOD use, delinquency, and other problem behaviors in adolescence. School survey data were collected in four states: Kansas, Maine, Oregon, and Washington. These states conducted statewide school surveys measuring ATOD use, delinquency, and risk and protective factor prevalence. Besides generating ATOD prevalence data for 6th grade students, normative data on risk and protective factor prevalence are drawn from the Six-State study. Two other states, South Carolina and Utah, participated in the Six-State project, but school survey data from those two states are not included in the comparison data.

Obviously, because of grade differences and other factors, Middle School Cadets demographics are not identical to the demographics of the students in the Six-State comparison group. Because of the differences in the relative proportions of the different grade levels, the best comparisons are made between Middle School Cadets and the comparison data at specific grade levels. Besides grade level differences, Tables 1, 2 and 3 compare Middle School Cadets students and Six-State students on demographic data. In general, the Six-State students were similar to Middle School Cadets students in average family size, and percent English speaking. Middle School Cadets differed in average age, ethnicity, and family status, however this difference is minor and comparisons between the Middle School Cadets survey data and the MTF/Six-State survey data should provide many useful and illuminating analyses.

### ***Validity of the Student Self-Report Data***

Three different strategies were used to assess the validity of individual student surveys. The first two strategies eliminate students who appear to exaggerate their substance use. In the first strategy, students were asked whether they ever used a fictitious drug, “Derbisol,” in their lifetime, in the past year, in the past 30 days, and how

old the student was when they first (if ever) used Derbisol. If the student reported the use of Derbisol on two of these four questions, they were eliminated from the data set. In the second strategy, students who reported the highest possible levels of use for every illicit drug (excluding marijuana) were also eliminated from the survey data set.

The third strategy to assess validity was designed to identify students who repeatedly reported logically inconsistent patterns of substance use. In the survey, students were asked whether they had used 16 specific licit and illicit substances in their lifetime, in the past year, and for the past 30 days, in a series of three questions. This sequence of questions makes it possible to examine the logical consistency of the students in their reported use. For example, if a student reported 10 uses of alcohol in the past 30 days, but no use in the past year or lifetime, that logical inconsistency was noted. Students were identified as inconsistent responders only if: 1) they were inconsistent on two out of four of the following substances: alcohol, cigarettes, chewing tobacco and marijuana; or 2) if they were inconsistent on more than half of the twelve remaining illicit substances. This approach will not eliminate students who make occasional clerical mistakes.

Analysis of the validity of the completed surveys indicated good cooperation from students. Eight students (2.7%) were identified by one or more of the three strategies described above and were removed from the data set, with 283 (97.3%) students remaining for analyses. Five students were eliminated for reporting the use of Derbisol (strategy 1), Two were identified for exaggerating illicit drug use (strategy 2) and Six were identified because of logical inconsistencies in their survey forms (strategy 3). These 3 strategies total to more than 8 students because some students were identified by more than one strategy.

### ***Confidence Intervals for Interpreting Survey Results***

The precision of survey findings depends in part, on the size of the survey sample. As the size of the sample increases the confidence that survey findings accurately

represent the larger student population also increases. Confidence in survey findings is expressed as a confidence interval. A confidence interval is an estimated range of values within which there is a 95% probability that the true population value is located. For example, 40% of all Middle School Cadets (MSC) reported the use of alcohol sometime in their lifetime. The confidence interval for this is  $\pm 6\%$ , meaning that the percentage of students who have used alcohol in their lifetime is likely to be between 34% and 46%. The calculation of confidence intervals assumes that a valid, representative sample of the Middle School Cadet population has been obtained.

As the proportion of students endorsing a particular item approach the extreme values of either 0% or 100% the confidence interval decreases. As another example, only 1% of students reported the use of cocaine in the past 30 days. The confidence interval for the prevalence of past 30 day use of cocaine is smaller, approximately  $\pm 2\%$ . This means that the actual prevalence of past 30-day use of cocaine can be assumed to be approximately zero to three percent.

## **The Survey Findings**

### **Student Demographics**

The number of students providing valid survey protocols is presented in Table 1. On Table 1 results at each gender by grade level combination are reported only for those students providing complete demographic data. Results in the Combined row are reported for students reporting at least one piece of demographic data.

Results presented on Table 1 show the average age of the students, the average family size, and the percent of families using English as their primary language. Table 1 shows that the language spoken at home was almost always English (97%), and students' families averaged 4.6 members. Table 2 shows the percentage of students who identified

themselves as members of different ethnic groups. The majority of the students were American-American (63.6%).

The family status of the students is reported in Table 3. Forty-one percent of students came from two parent families. Another 49.6% of students came from single parent families, and the remainder of the students were living with an adult other than their parents.

Tables 1, 2 and 3 also compare the demographic findings for the Middle School Cadets students with the Six-State sample. As mentioned, there are some differences, however the Middle School Cadets student findings can be meaningfully examined in the larger context of both the Six-State and MTF survey findings.

Table 1. The number of Middle School Cadets and Six-State students, their average age, average family size, and percent English speaking at home, presented by gender and grade level.

Grade Level	Gender	Middle School Cadets Students				Six-State Students			
		Number of Students	Average Age	Average Family Size	English is Primary Language at Home	Number of Students	Average Age	Average Family Size	English is Primary Language at Home
6th	Female	55	11.8	5.2	98%	11,079	11.5	4.1	96%
	Male	66	11.8	4.1	95%	11,022	11.6	4.1	96%
7th	Female	30	12.8	4.1	100%				
	Male	51	12.8	4.2	96%				
8th	Female	23	13.9	5.0	96%	11,629	13.5	4.0	96%
	Male	36	13.8	4.8	94%	11,340	13.7	4.0	96%
9th	Female								
	Male								
10th	Female					8,060	15.5	4.6	97%
	Male					7,634	15.6	4.5	97%
11th	Female								
	Male								
12th	Female					5,927	17.3	4.5	97%
	Male					5,926	17.5	4.5	97%
Combined	Female	111	12.6	4.9	98%	36,695	14.1	4.2	97%
	Male	156	12.6	4.3	95%	35,922	14.3	4.1	96%
	Total	267	12.6	4.6	97%	72,617	14.1	4.1	96%

Table 2. The number of Middle School Cadets and Six-State students by ethnicity and grade level.

Grade Level	Middle School Cadets							Six-State Students					
	Euro.- Amer.	Afric.- Amer.	Hisp.	Native Amer.	Asian/ Pac. Isl.	More Than One	Other	Euro.- Amer.	Afric.- Amer.	Hisp.	Native Amer.	Asian/ Pac. Isl.	Other
<b>6th</b>	17.9%	65.8%	0.9%	8.5%	1.7%	1.7%	3.4%	75.2%	5.7%	7.4%	3.9%	2.4%	5.3%
<b>7th</b>	28.6%	56.0%	3.6%	3.6%	0.0%	3.6%	4.8%						
<b>8th</b>	18.6%	69.5%	0.0%	1.7%	1.7%	5.1%	3.4%	76.8%	5.2%	7.3%	3.2%	2.9%	4.6%
<b>9th</b>													
<b>10th</b>								81.8%	4.1%	6.9%	2.6%	2.4%	2.2%
<b>11th</b>													
<b>12th</b>								85.0%	4.0%	5.5%	1.6%	2.1%	1.8%
<b>Combined</b>	21.6%	63.6%	1.5%	5.2%	1.5%	3.0%	3.7%	79.2%	4.6%	6.6%	3.0%	2.5%	4.0%



Table 3. The number of Middle School Cadets and Six-State students in different family situations by gender and grade level.

Grade Level	Middle School Cadets Students				Six-State Survey			
	Two Parent	One Parent	Other Adult	Foster Home	Two Parent	One Parent	Other Adult	Foster Home
6th	38.2%	51.2%	9.8%	0.8%	68.1%	19.2%	10.2%	2.5%
7th	45.3%	48.8%	4.7%	1.2%				
8th	40.0%	51.7%	8.3%	0.0%	65.7%	19.5%	12.2%	2.5%
9th								
10th					66.2%	18.2%	12.4%	3.1%
11th								
12th					68.8%	15.0%	11.5%	4.8%
Combined	41.1%	49.6%	8.6%	0.7%	67.1%	18.1%	11.7%	3.0%

### **Student Use of Alcohol, Cigarettes, Marijuana, and Inhalants**

Table 4 shows the prevalence of the most commonly used drugs: alcohol, cigarettes, marijuana, and inhalants, by Middle School Cadets students. The results are presented by grade level, and Middle School Cadets results are comparable by grade level with the Monitoring the Future and Six-State results. Results are reported for use ever in the student's lifetime, in the past year, and in the past 30 days. (Past year use is not measured for cigarettes and chewing tobacco.) As is typical in student populations, alcohol is the most widely used substance. Overall, 40% of students reported using alcohol sometime in their lifetime. Use rises from 32% in 6th grade to 58% in 8th grade. Ten percent of the students reported using alcohol in the past 30 days. It appears that 30 day use of alcohol among Middle School Cadets students is similar to the MTF/Six-State comparison data.

Tobacco (primarily cigarettes) and marijuana are the next most frequently used substances. Overall, about 36% of Middle School Cadets students reported using cigarettes sometime in their lifetime; lifetime prevalence ranges from 26% in 6th grade to a high of 55% in 8th grade. Seven percent of the students reported using cigarettes in the past 30 days. For 30 day use of cigarettes, use ranges from 4% in 6th grade to 12% in the 8th grade. Lifetime cigarette use among Middle School Cadets appears to be slightly higher than the MTF/Six-State findings, while 30 day use is similar to slightly lower. There was relatively low use of chewing tobacco in comparison to cigarette use, which is typical of school age populations. Middle School Cadets use of chewing tobacco was similar to the MTF/Six-State groups' chewing tobacco use.

Marijuana follows the same patterns of use as with alcohol and cigarettes. Lifetime, about 14% of Middle School Cadets students reported using marijuana, with use rising from 10% in the 6th grade to 32% in 8th grade. Thirty day use of marijuana was 4%

overall. Lifetime use of marijuana appears to be slightly higher than the MTF/Six-State sample, with 30 day use similar.

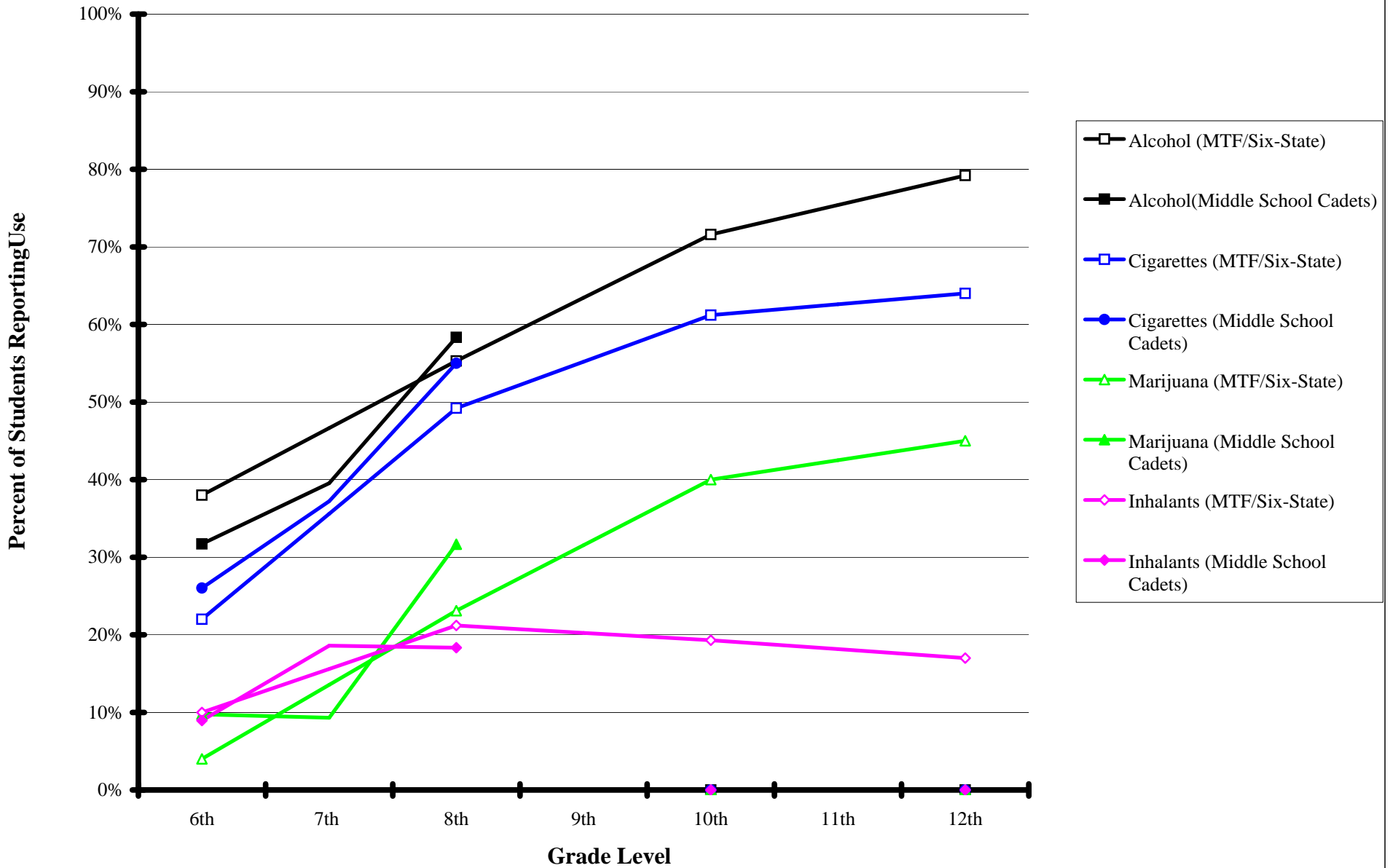
Lifetime, about 14% of students reported the use of inhalants, and six percent of Middle School Cadets students reported the use of inhalants in the past 30 days. Inhalant use appeared to be similar to the MTF/Six-State sample.

Table 4. The percentage of Middle School Cadets and MTF/Six-State students reporting the use of alcohol, tobacco, marijuana, and inhalants, for the past 30 days, the past 12 months, and ever in their lifetime. (A)

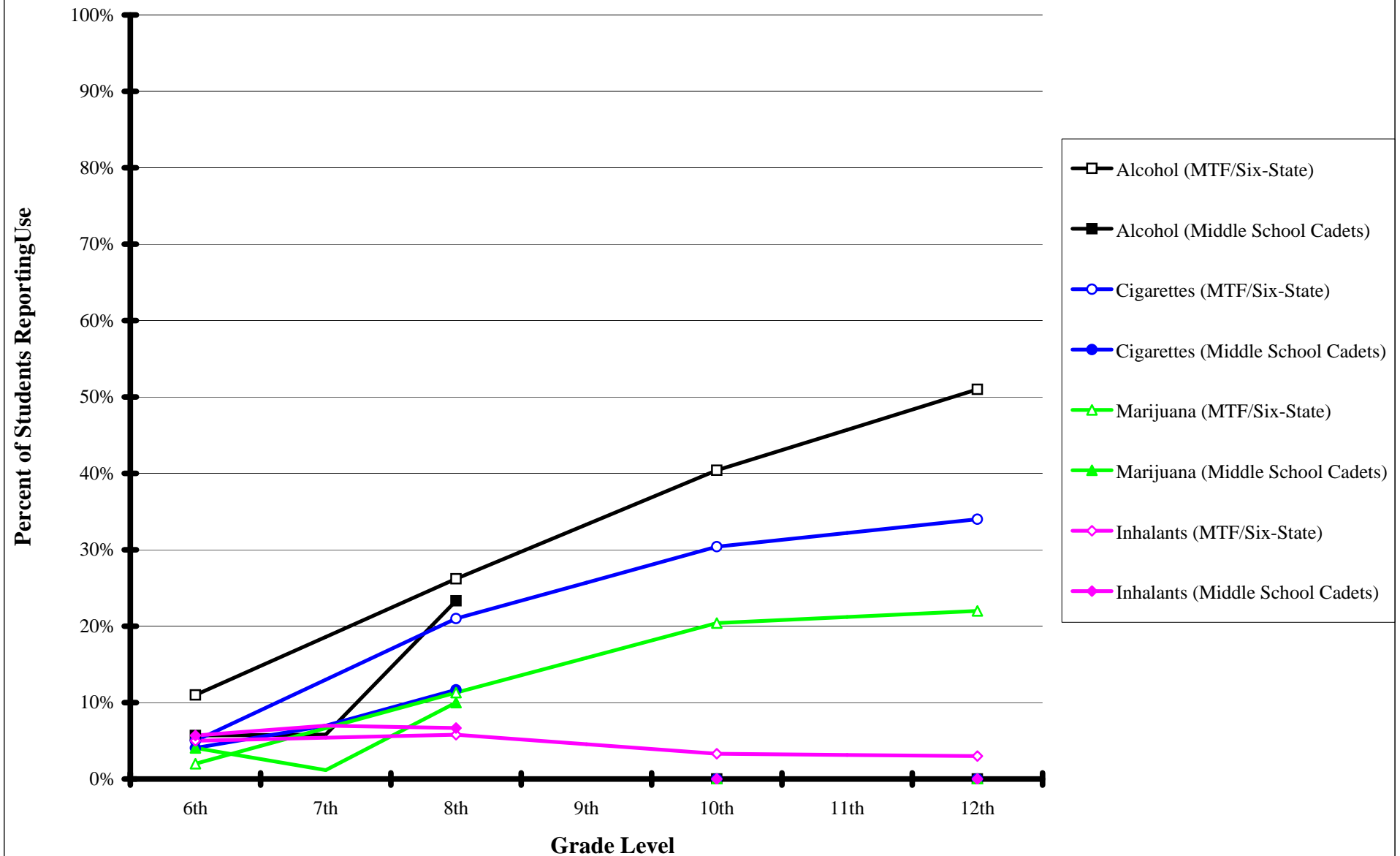
Substance	Middle School Cadets								MTF / Six-State			
	6th	7th	8th	9th	10th	11th	12th	Comb.	6th	8th	10th	12th
Alcohol (Lifetime)	32%	40%	58%					40%	38%	55%	72%	79%
Alcohol (12 Months)	15%	22%	42%					23%	28%	47%	65%	73%
Alcohol (30 Days)	6%	6%	23%					10%	11%	26%	40%	51%
Cigarettes (Lifetime)	26%	37%	55%					36%	22%	49%	61%	64%
Cigarettes (30 Days)	4%	7%	12%					7%	5%	21%	30%	34%
Chewing Tob. (Lifetime)	11%	7%	10%					10%	11%	20%	27%	30%
Chewing Tob. (30 Days)	4%	0%	7%					4%	3%	7%	9%	10%
Marijuana (Lifetime)	10%	9%	32%					14%	4%	23%	40%	45%
Marijuana (12 Months)	5%	2%	20%					7%	4%	18%	34%	36%
Marijuana (30 Days)	4%	1%	10%					4%	2%	11%	20%	22%
Inhalants (Lifetime)	9%	19%	18%					14%	10%	21%	19%	17%
Inhalants (12 Months)	8%	12%	10%					9%	10%	12%	10%	8%
Inhalants (30 Days)	6%	7%	7%					6%	5%	6%	3%	3%

(A) All comparison data are taken from the *Monitoring the Future* Survey except for 6th grade data, which are taken from the Six-State Project.

**Figure 1. The Percentage of Students Reporting the Use of Alcohol, Cigarettes, Marijuana, and Inhalants, At Least Once in Their Lifetime**



**Figure 2. The Percentage of Students Reporting the Use of Alcohol, Cigarettes, Marijuana, and Inhalants, At Least Once in the Past 30 Days**



### **Student Use of Illicit Drugs Other than Marijuana**

Table 5 shows the percentage of Middle School Cadets students and MTF/Six-State students reporting the use of illicit drugs (LSD, cocaine, crack cocaine, amphetamines, heroin, other narcotics, barbiturates, hashish and steroids); only limited illicit drug use was collected for 6th grade students by the Six-State study. As with Table 4, use is reported for three time periods: ever in the student's lifetime, in the past year, and in the past 30 days. About 18% of Middle School Cadets students reported the use of at least one illicit drug in their lifetime. Seven percent of the students reported the use of an illicit drug in the past 30 days. The grade specific rates are comparable to the MTF/Six-State findings for both lifetime and 30 day use.

The rates for the specific illicit drugs were much lower. The lower levels of illicit use, as compared to alcohol, cigarettes, and marijuana is expected for school age populations. The most commonly used illicit drugs among 8<sup>th</sup> graders were LSD and Amphetamines. For 6<sup>th</sup> graders, narcotics appear to be the most commonly used drug. Overall, Middle School Cadets students were generally lower than the MTF/Six-State students in their use of specific illicit drugs.

Table 5. The percentage of Middle School Cadets and comparison students reporting the use of illicit substances for the past 30 days, the past 12 months, and ever in their lifetime. (B)

Substance	Middle School Cadets								MTF / Six-State			
	6th	7th	8th	9th	10th	11th	12th	Comb.	6th	8th	10th	12th
Any Illicit Drug (ex. Marijuana-Lifetime)	14%	21%	22%					18%	-	19%	26%	29%
Any Illicit Drug (ex. Marijuana-12 Months)	12%	13%	12%					12%	-	13%	18%	20%
Any Illicit Drug (ex. Marijuana-30 Days)	7%	7%	8%					7%	-	7%	9%	10%
LSD and Other Psychedelics (Lifetime)	1%	0%	3%					1%	1%	5%	9%	13%
LSD and Other Psychedelics (12 Months)	1%	1%	3%					1%	-	4%	7%	9%
LSD and Other Psychedelics (30 Days)	0%	0%	2%					0%	0%	2%	2%	3%
Cocaine (Lifetime)	0%	1%	3%					1%	1%	5%	7%	7%
Cocaine (12 Months)	0%	0%	0%					0%	-	3%	4%	5%
Cocaine (30 Days)	0%	0%	0%					0%	1%	1%	2%	2%
Crack Cocaine (Lifetime)	0%	1%	0%					0%	-	3%	3%	3%
Crack Cocaine (12 Months)	1%	0%	0%					0%	-	2%	2%	2%
Crack Cocaine (30 Days)	0%	0%	0%					0%	-	1%	1%	1%

(B) All comparison data are taken from the *Monitoring the Future* Survey except for 6th grade data, which are taken from the Six-State Project.



Table 5 (Cont.). The percentage of Middle School Cadets and MTF/Six-State students reporting the use of illicit substances for the past 30 days, the past 12 months, and ever in their lifetime. (C)

Substance	Middle School Cadets								MTF / Six-State			
	6th	7th	8th	9th	10th	11th	12th	Comb.	6th	8th	10th	12th
Amphetamines (Lifetime)	1%	0%	5%					1%	-	14%	18%	15%
Amphetamines (12 Months)	0%	0%	3%					1%	-	9%	12%	10%
Amphetamines (30 Days)	0%	0%	2%					0%	-	5%	6%	4%
Heroin (Lifetime)	0%	0%	3%					1%	-	2%	2%	2%
Heroin (12 Months)	0%	0%	2%					0%	-	2%	1%	1%
Heroin (30 Days)	0%	0%	0%					0%	-	1%	1%	1%
Other Narcotics (Lifetime)	2%	0%	2%					1%	-	5%	-	8%
Other Narcotics (12 Months)	2%	0%	2%					1%	-	4%	-	5%
Other Narcotics (30 Days)	1%	0%	0%					0%	-	2%	-	2%
Barbiturates (Lifetime)	0%	1%	2%					1%	-	3%	-	8%
Barbiturates (12 Months)	0%	0%	2%					0%	-	2%	-	5%
Barbiturates (30 Days)	1%	0%	2%					1%	-	1%	-	2%

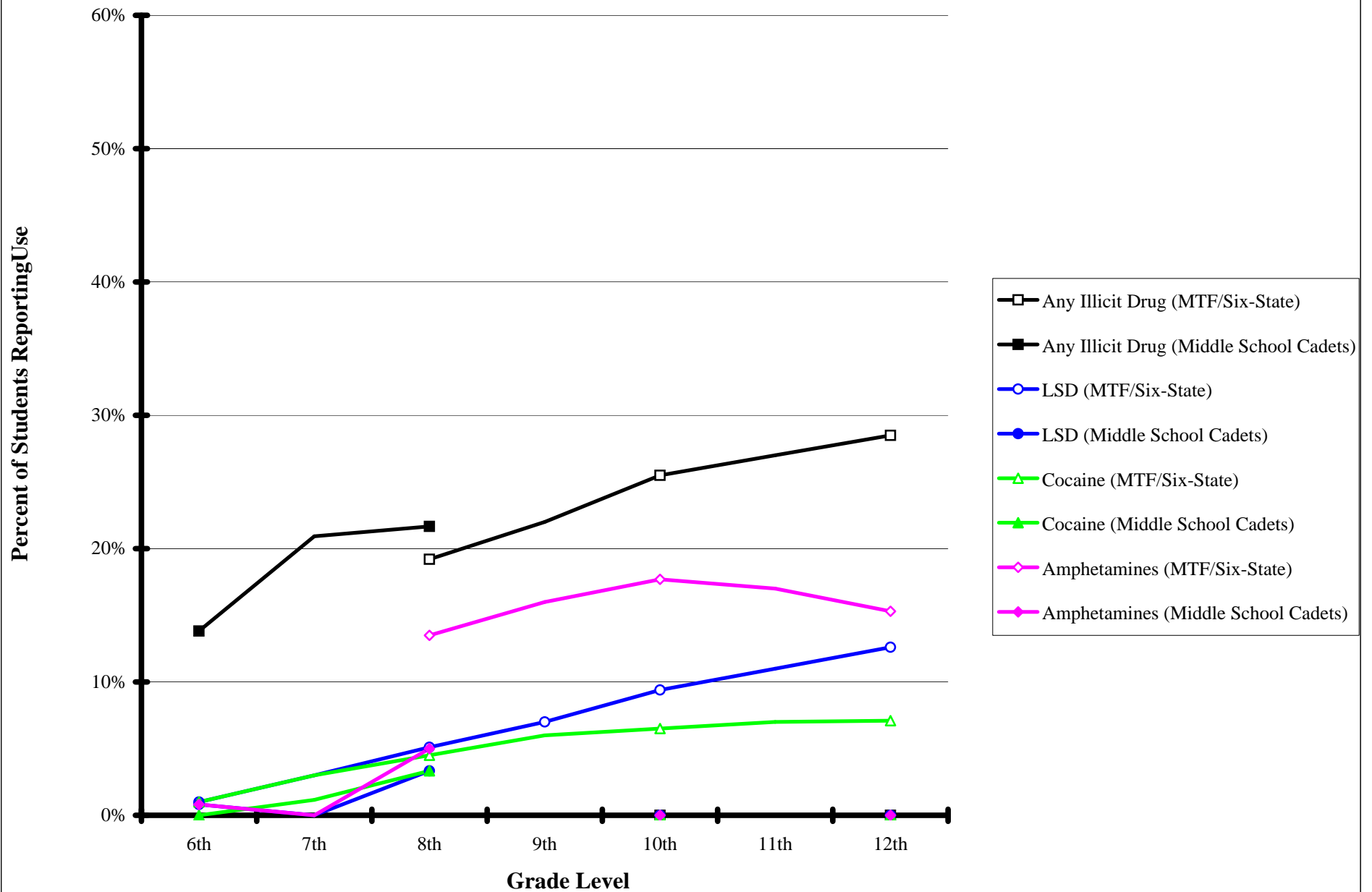
(C) All comparison data are taken from the *Monitoring the Future* Survey

Table 5 (Cont.). The percentage of Middle School Cadets and MTF/Six-State students reporting the use of illicit substances for the past 30 days, the past 12 months, and ever in their lifetime. (D)

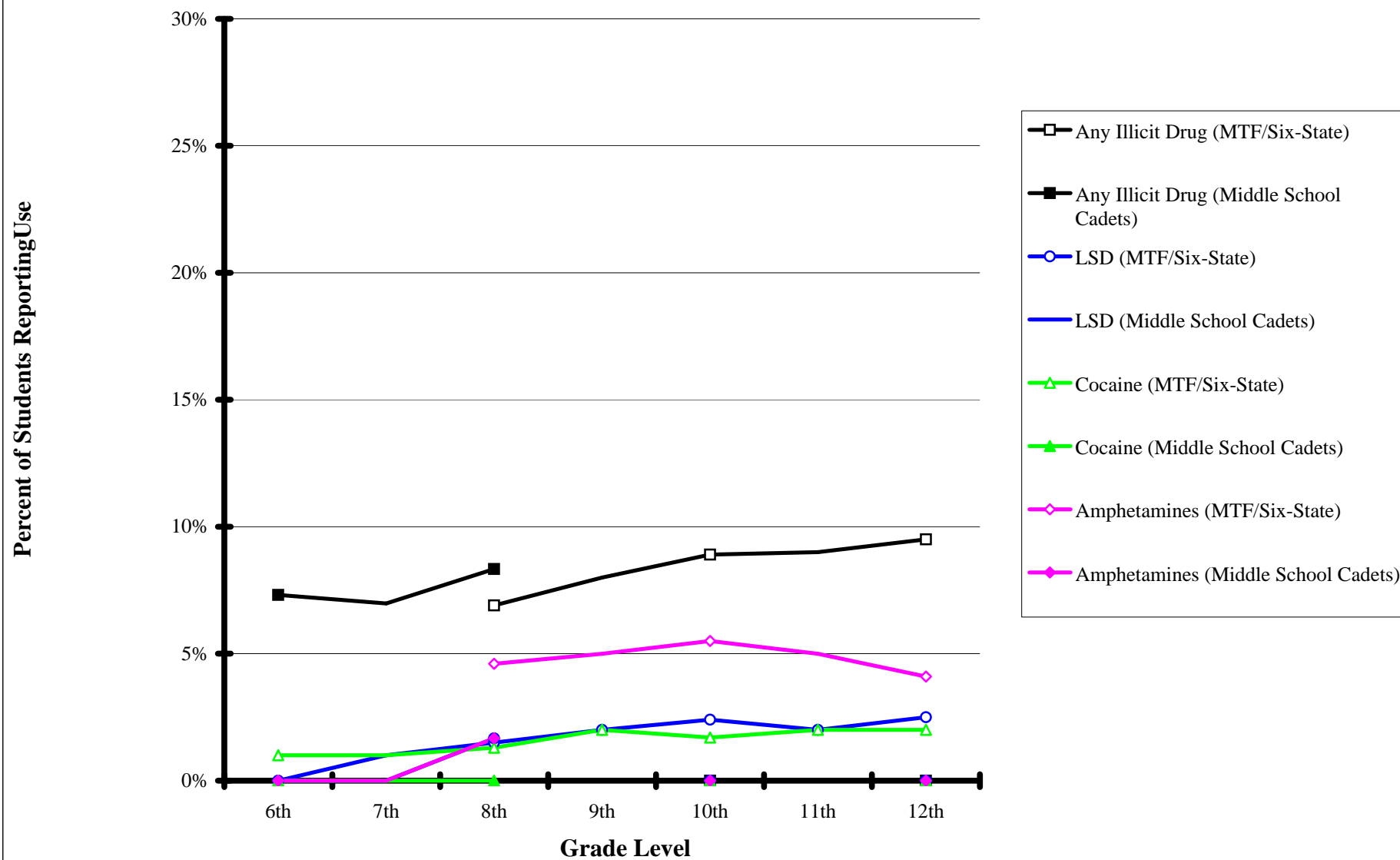
Substance	Middle School Cadets								MTF / Six-State			
	6th	7th	8th	9th	10th	11th	12th	Comb.	6th	8th	10th	12th
Hashish (Lifetime)	3%	0%	2%					2%	-	7%	-	-
Hashish (12 Months)	1%	0%	0%					0%	-	5%	-	-
Hashish (30 Days)	1%	0%	0%					0%	-	3%	-	-
Steroids (Lifetime)	0%	2%	2%					1%	-	2%	2%	2%
Steroids (12 Months)	0%	0%	2%					0%	-	1%	1%	1%
Steroids (30 Days)	0%	0%	2%					0%	-	0%	1%	1%

(D) All data from *Monitoring the Future* Survey except eighth grade hashish data taken from the Six-State Project.

**Figure 3. The Percentage of Students Reporting the Use of Illicit Drug Use,  
At Least Once in Their Lifetime**



**Figure 4. The Percentage of Students Reporting the Use of Illicit Drug Use,  
in the Past 30 Days**



### **The Prevalence of Antisocial Behavior**

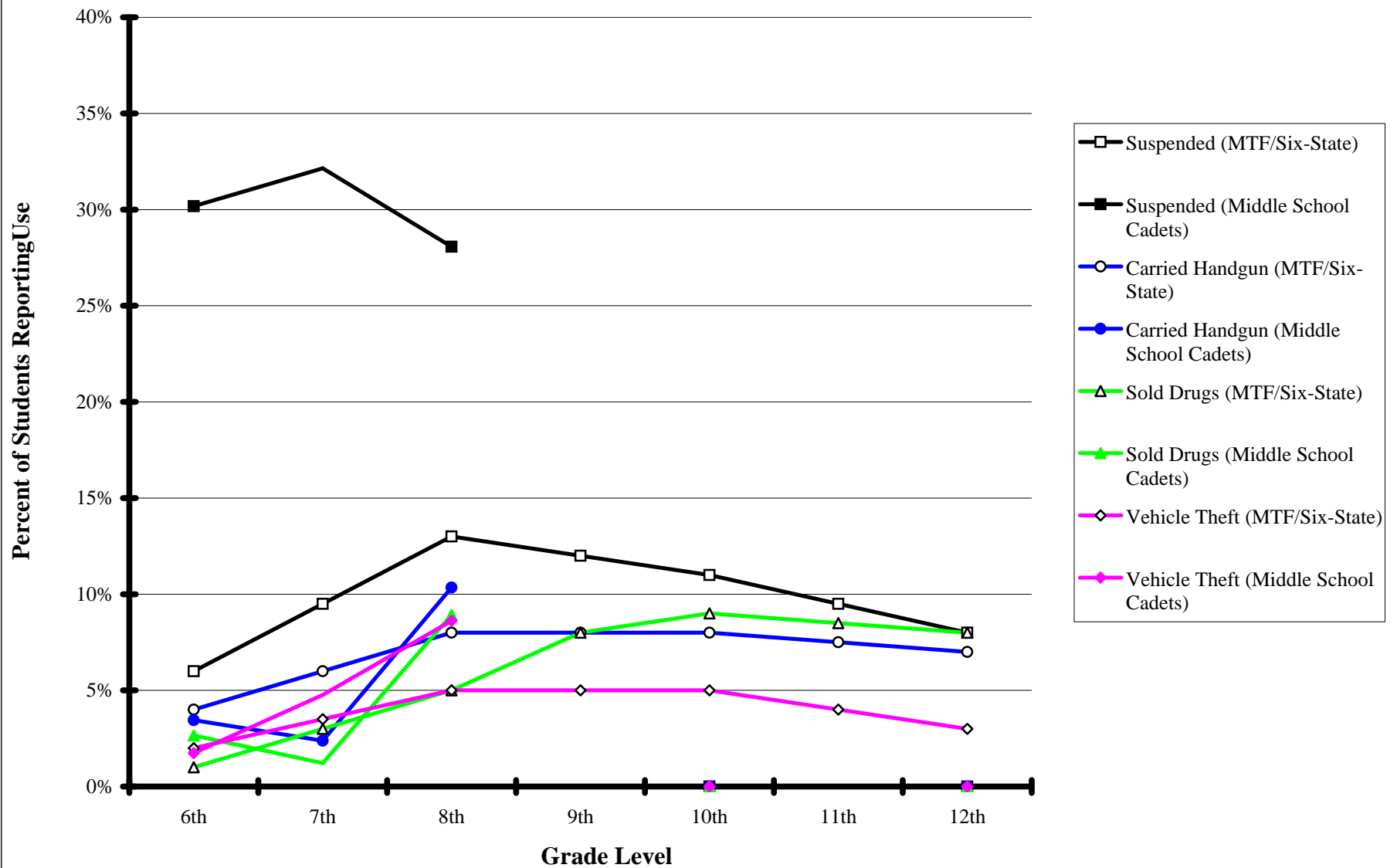
A small proportion of Middle School Cadets students reported that they had engaged in several different kinds of antisocial behavior within the last year. Comparison data for the delinquent behaviors come entirely from the Six-State study. Middle School Cadets students reported generally similar to slightly higher rates of activity. The most common delinquent behaviors reported were “Suspended from School” and “Attacked Someone With the Intention of Hurting Them”. Table 6 (and Figures 5 and 6) shows the prevalence of these behaviors in comparison with Six-State students. Fourteen percent of Middle School Cadets reported they “Attacked Someone With the Intention of Hurting Them, a rate slightly higher than the comparison sample. Twenty-nine percent of the cadets reported “Suspended from School.” However, it is difficult to interpret school suspension rates, because school suspension rates vary substantially from district to district depending on district policies and practices.

Table 6. The percentage of Middle School Cadets and Six-State students reporting specific delinquent behaviors in the past year. (E)

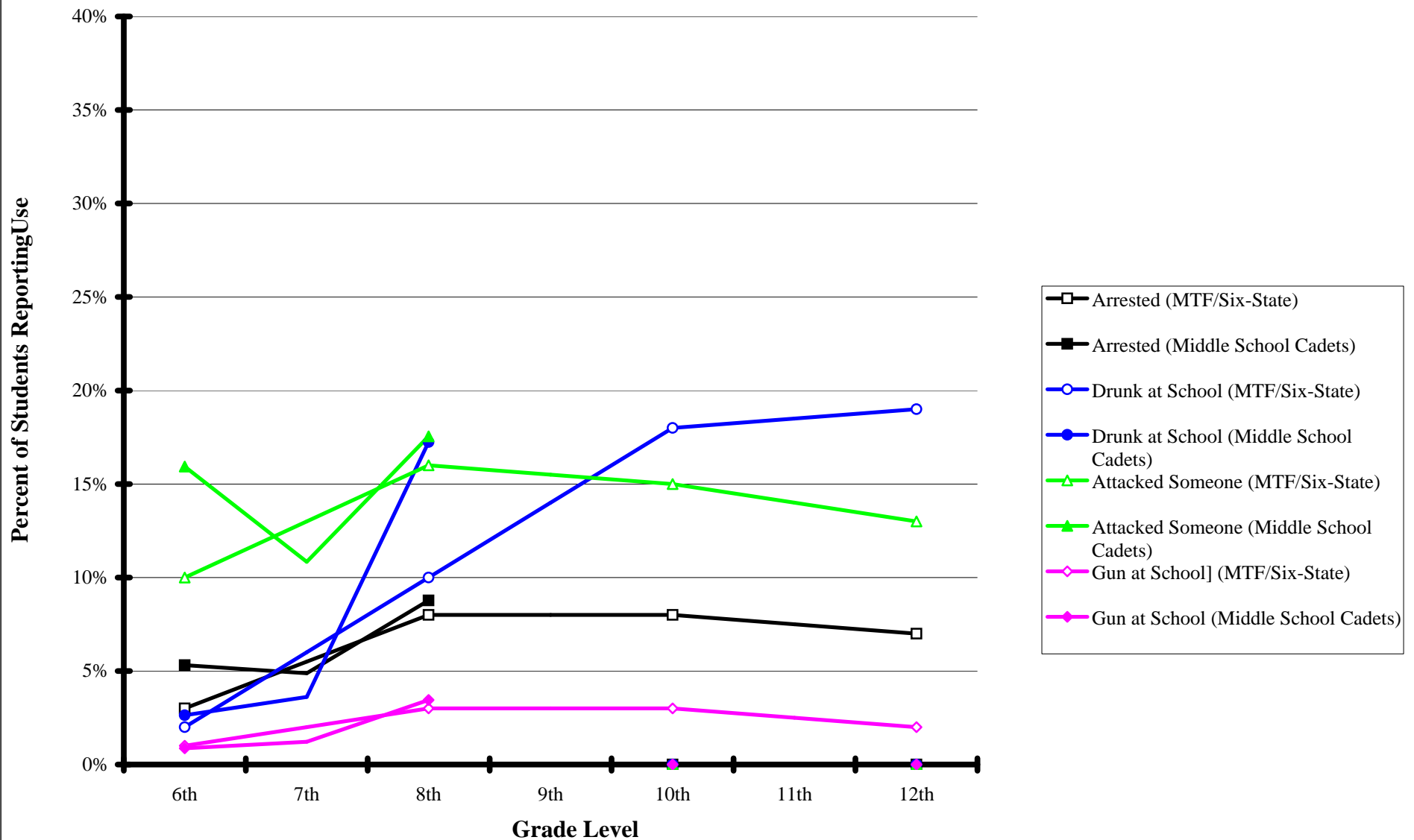
Substance	Middle School Cadets								Six - State			
	6th	7th	8th	9th	10th	11th	12th	Comb.	6th	8th	10th	12th
Suspended from School	30%	32%	28%					29%	6%	13%	11%	8%
Carried a Handgun	3%	2%	10%					4%	4%	8%	8%	7%
Sold Illegal Drugs	3%	1%	9%					3%	1%	5%	9%	8%
Stole Motor Vehicle	2%	5%	9%					4%	2%	5%	5%	3%
Been Arrested	5%	5%	9%					6%	3%	8%	8%	7%
Drunk or High at School	3%	4%	17%					6%	2%	10%	18%	19%
Attacked Someone with the Idea of Hurting Them	16%	11%	18%					14%	10%	16%	15%	13%
Taken a Handgun to School	1%	1%	3%					2%	1%	3%	3%	2%

(E) All comparison data taken from the Six-State Project.

**Figure 5. The Percentage of Students Reporting They Have Been Suspended, Been Drunk or High at School, Sold Illegal Drugs, or Stolen a Vehicle, in the Past Year**



**Figure 6. The Percentage of Students Reporting They Have Been Arrested, Attacked Someone with the Intention of Hurting Them, Carried a Handgun, or Taken a Gun to School, in the Past Year**





### **The Prevalence of Risk and Protective Factors**

Individual risk and protective factors are presumed to influence adolescent substance use through a variety of mechanisms. Risk factors are known to increase the likelihood of substance use. Protective factors are social or personal characteristics known to mitigate or protect against the influence of risk factors.

In this section, the prevalence of risk and protective factors is analyzed for Middle School Cadets students in two different ways. First, a risk and protective factor “profile” is developed for Middle School Cadets students by calculating the average value of each risk and protective factor across all Middle School Cadets students. Figures 7 and 8 show the average level of each of the risk and protective factors for all Middle School Cadets students as compared to Six-State students. All risk and protective factors are measured by z-score units, with grade-specific norms developed on the basis of the Six-State study. In these two figures, the “0.00” point represents the average values on the risk or protective factor for all 72,000 students participating in the Six-State study.

In Figure 7, two of the 21 risk factors rose significantly above the Six-State average. (For risk factors, a higher score indicates higher levels of risk and greater likelihood of antisocial behavior.) The most prominent risk factors were: Low Neighborhood Attachment and Community Disorganization. Middle School Cadets students reported significantly lower (better) than average results on many of the risk factors.

In Figure 8, the Middle School Cadets student averages on three of the nine protective factors, Community Rewards for Involvement, School Opportunities for Involvement and Family Attachment, was slightly lower than the Six-State average. (For protective factors, a higher score is better.) Several protective factors rose above the Six-State average.

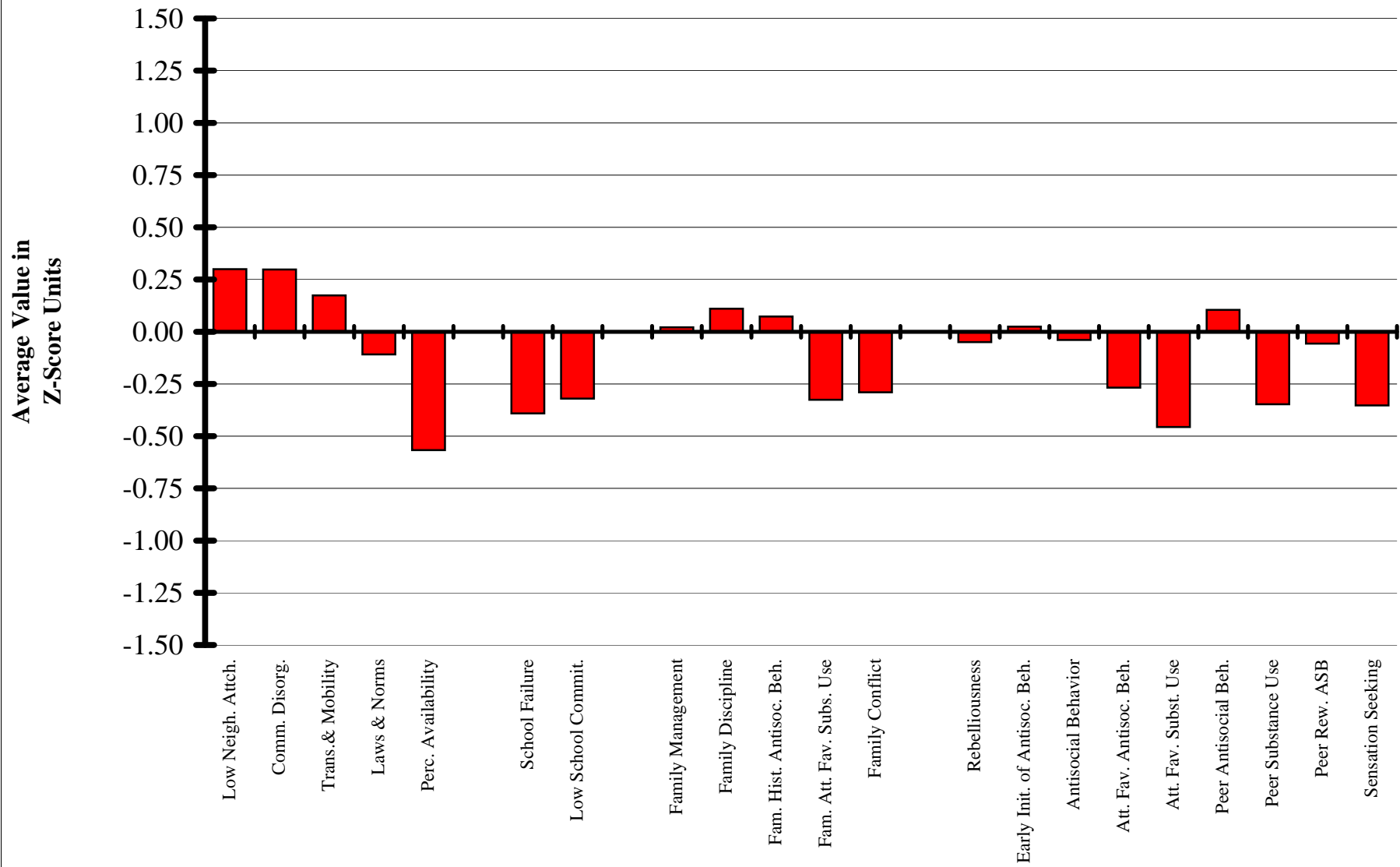
A different way of examining risk and protective factor prevalence is by counting the number of risk and protective factors on which students have elevated scores. The previous risk profile analysis looked at the average level of risk and protective factors

across all students and all grade levels. In contrast, this analysis calculates the average number of “elevated” risk and protective factors in the students backgrounds. A student was defined as being “elevated” on a specific risk or protective factor if their score on that factor placed them in the upper one-fifth of the distribution ( $\geq .84$  z-score) for that specific risk or protective factor. This analysis also makes it possible to measure the extent to which risk for Middle School Cadets students increases with grade level and protective factors decrease with grade level. Typically, the prevalence of risk factors does increase throughout adolescence, while the level of protection typically declines.

It is important to note that the number of elevated risk and protective factors in students’ backgrounds does not necessarily correspond to the number of risk and protective factors found to be above or below average (the 0.00 point) in the previous risk profile analysis. For example, imagine the situation where 15 students complete the survey. Five of the students are elevated on a specific risk factor (above the .84 z-score criterion), and the remaining 10 students have scores moderately below the average. While the overall average on the risk factor would be near zero, five students would still be identified as being elevated on the risk factor.

Table 7 shows the average number of risk and protective factors on which students reported elevated scores. Figure 9 graphically displays the change in the average number of risk and protective factors across the grade span. Generally, Middle School Cadets students reported slightly higher levels of elevated risk factor scores (3.0 overall) and higher levels of elevated protective factors (2.0 overall). Table 7 also shows that the number of risk factors in a Middle School Cadets student’s background does go up with age, as expected, while the number of protective factors generally declines. The findings of higher levels of protective factors and higher levels of risk at specific grades is consistent with Middle School Cadets students’ reported use of ATOD substances and the reported prevalence of delinquent behavior.

**Figure 7. Average Value of Risk Factors for All Students**



**Figure 8. Average Value of Protective Factors for All Students**

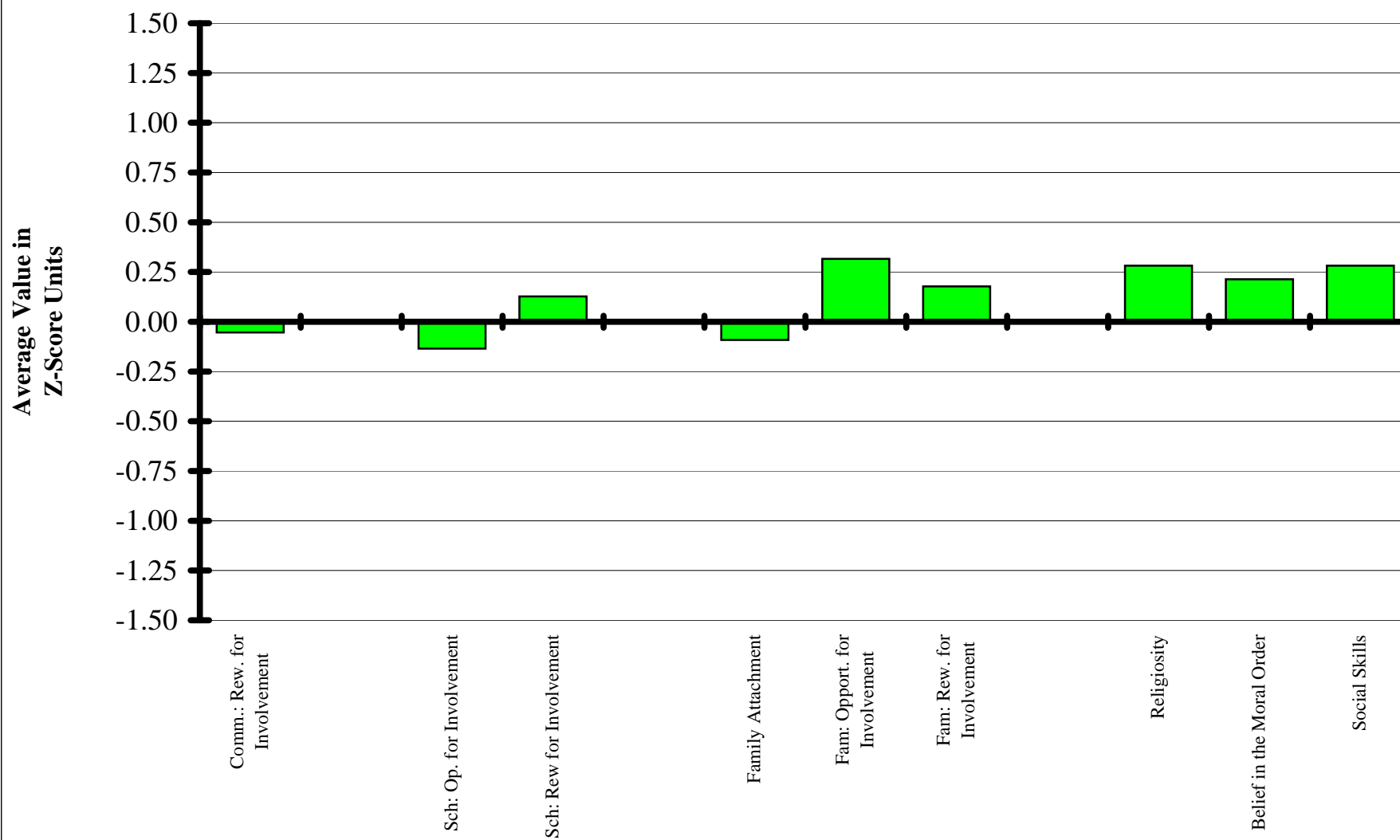
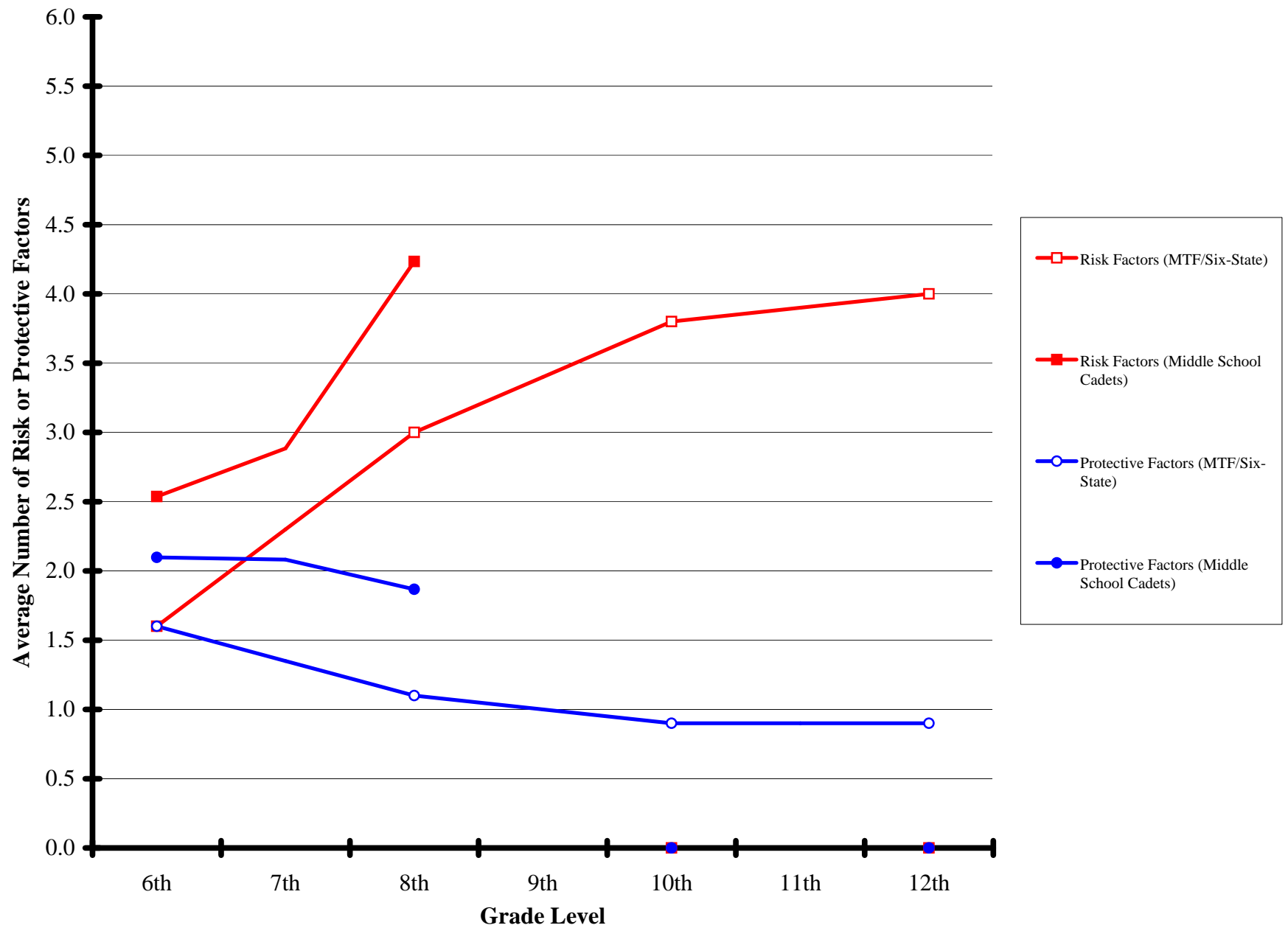


Table 7. Comparison of Middle School Cadets and Six-State students on the average number of elevated risk and protective factors. (F)

Substance	Middle School Cadets								Six - State			
	6th	7th	8th	9th	10th	11th	12th	Comb.	6th	8th	10th	12th
Risk Factors	2.5	2.9	4.2					3.0	1.6	3.0	3.8	4.0
Protective Factors	2.1	2.1	1.9					2.0	1.6	1.1	0.9	0.9

(F) All comparison data taken from the Six-State Project.

**Fig. 9. The Average Number of Elevated Risk Factors and Elevated Protective Factors**



## Conclusions and Recommendations

This survey of the Middle School Cadets appears to be based on valid self-report data. Overall, good cooperation was observed from Middle School Cadets students, with the vast majority of students who were eligible for participation actually completing valid surveys. While there are some demographic differences between MTF/Six-State students and Middle School Cadets students, there is a strong basis for interpreting the survey results.

With few exceptions, Middle School Cadets students show generally similar levels of ATOD use in comparison to the MTF/Six-State comparison sample. Middle School Cadets students were comparable to the MTF/Six-State students in 30-day alcohol and cigarette use. Middle School Cadets students reported similar levels of marijuana and inhalant use. Lifetime use of cigarettes and marijuana among Middle School Cadets and was slightly higher than the MTF/Six-State students.

Middle School Cadets students were again comparable to the MTF/Six-State students in their reporting of use of any illicit drugs except marijuana. Results for the use of individual illicit drugs were similar to or lower than the MTF/Six-State norms. Middle School Cadets rates of delinquent behaviors were generally slightly higher than the Six-State norms.

Consistent with the above findings, the average Middle School Cadets students reported slightly higher levels of risk factors and elevated protective factors in their backgrounds, when compared to the Six-State students. These findings are consistent with Middle School Cadets students' prevalence rates on many ATOD substances and delinquent behaviors.

To target specific risk factors, Middle School Cadets may wish to consider implementing prevention programming within school-based or community-based programs that relate to social norms regarding ATOD use, and strengthen community

attachment/organization. Even though Middle School Cadets students showed acceptable levels on the protective factor Social Skills, school-based programs might also be considered for improving adolescents' social skills. Improving social skills is a proven and effective way of reducing substance use, delinquency, and other antisocial behaviors. Tables 8 and 9, on the next two pages, provide a summary of the kinds of prevention programming that has been found to be effective in reducing specific risk factors (Hawkins & Catalano, 1992; Brewer, Hawkins, Catalano & Neckerman, in press). If there is interest, DRP also has developed and implemented school and community based-programs including Preparing for the Drug Free Years®, Communities That Care®, Parents Who Care™, and PATHS® (Promoting Alternative Thinking Strategies). These programs provide a risk-focused approach to drug abuse and delinquency prevention.

One of the benefits of conducting this survey is that Middle School Cadets can use the data as a baseline from which to assess future prevention and intervention efforts. By repeated assessments at regular intervals (e.g., every two years) of Middle School Cadets students, it is possible to identify program successes, and to identify program areas that remain to be improved. The measurement of change in risk and protective factor prevalence, followed by changes in substance use and delinquency, is a very valuable management tool and would serve as a model for many other communities as they develop and implement their own substance abuse and delinquency prevention efforts.



## Protective Factors

	Risk Factor Addressed	Program Strategy	Healthy Beliefs & Clear Standards	Bonding	Opport.	Skills	Recog.	Developmental Period
School Domain	Early and Persistent Antisocial Behavior	Early Childhood Education	✓	✓	✓	✓	✓	3-5
		Parent Training	✓	✓	✓	✓	✓	prenatal-10
		Family Therapy	✓	✓	✓	✓	✓	6-18
		Classroom Organization, Management and Instructional Strategies	✓	✓	✓	✓	✓	6-18
		Classroom Curricula for Social Competence Promotion	✓	✓	✓	✓	✓	6-14
		School Behavior Management Strategies	✓		✓		✓	6-14
		Afterschool Recreation Programs	✓	✓	✓	✓	✓	6-10
		Mentoring with Contingent Reinforcement	✓		✓		✓	11-18
	Academic Failure Beginning in Late Elementary School	Prenatal/Infancy Programs	✓	✓	✓	✓	✓	prenatal-10
		Early Childhood Education	✓	✓	✓	✓	✓	3-5
		Parent Training	✓	✓	✓	✓	✓	prenatal-10
		Organizational Change in Schools	✓	✓	✓	✓	✓	6-18
		Classroom Organization, Management and Instructional Strategies	✓	✓	✓	✓	✓	6-18
		Classroom Curricula for Social Competence Promotion	✓	✓	✓	✓	✓	6-14
		School Behavior Management Strategies	✓		✓		✓	6-14
		Youth Employment with Education	✓	✓	✓	✓	✓	15-21
	Lack of Commitment to School	Early Childhood Education	✓	✓	✓	✓	✓	3-5
		Organizational Change in Schools	✓	✓	✓	✓	✓	6-18
		Classroom Organization, Management and Instructional Strategies	✓	✓	✓	✓	✓	6-18
		School Behavior Management Strategies	✓		✓		✓	6-14
		Mentoring with Contingent Reinforcement	✓		✓		✓	11-18
		Youth Employment with Education	✓	✓	✓	✓	✓	15-21

## Protective Factors

	Risk Factor Addressed	Program Strategy	Healthy Beliefs & Clear Standards	Bonding	Opport.	Skills	Recog.	Developmental Period
Community Domain	Availability of Drugs	Community/School Policies	✓	✓	✓	✓	✓	all
	Availability of Drugs	Community/School Policies	✓					all
	Community Laws and Norms Favorable Toward Drug Use, Firearms, and Crime	Classroom Curricula for Social Competence	✓		✓			6-14
		Community Mobilization	✓	✓	✓	✓	✓	all
		Community/School Policies	✓	✓	✓	✓	✓	all
		Policing Strategies	✓					all
	Media Portrayals of Violence							
	Transitions and Mobility	Organizational Change in Schools	✓	✓	✓	✓	✓	6-18
	Low Neighborhood Attachment and Community Disorganization	Community Mobilization	✓	✓	✓	✓	✓	all
		Policing Strategies	✓					all
		Organizational Change in Schools	✓	✓	✓	✓	✓	all
		Classroom Curricula for Social Competence	✓		✓	✓		11-14
	Extreme Economic Deprivation	Prenatal and Infancy Programs	✓	✓	✓	✓	✓	prenatal-3
		Youth Employment with Education	✓	✓	✓	✓	✓	all

## Protective Factors

	Risk Factor Addressed	Program Strategy	Healthy Beliefs & Clear Standards	Bonding	Opport.	Skills	Recog.	Developmental Period
Family Domain	Family History of the Problem Behavior	Prenatal/Infancy Programs	✓	✓	✓	✓	✓	prenatal-2
	Family Management Problems	Prenatal/Infancy Programs	✓	✓	✓	✓	✓	prenatal-2
		Early Childhood Education	✓	✓	✓	✓	✓	3-5
		Parent Training	✓	✓	✓	✓	✓	prenatal-14
		Family Therapy	✓	✓	✓	✓	✓	6-14
	Family Conflict	Marital Therapy	✓	✓	✓	✓	✓	prenatal
		Prenatal/Infancy Programs	✓	✓	✓	✓	✓	prenatal-2
		Parent Training	✓	✓	✓	✓	✓	prenatal-14
		Family Therapy	✓	✓	✓	✓	✓	6-14
	Favorable Parental Attitudes and Involvement in the Problem Behavior	Prenatal/Infancy Programs	✓	✓	✓	✓	✓	prenatal-2
		Parent Training	✓	✓	✓	✓	✓	prenatal-14
		Community/School Policies	✓	✓	✓	✓	✓	all

## Protective Factors

		Risk Factor Addressed	Program Strategy	Healthy Beliefs & Clear Standards	Bonding	Opport.	Skills	Recog.	Developmental Period
Individual/Peer Domain	Rebelliousness	Family Therapy		✓	✓	✓	✓	✓	6-14
		Classroom Curricula for Social Competence Promotion		✓	✓	✓	✓	✓	6-14
		School Behavior Management Strategies		✓		✓		✓	6-14
		Afterschool Recreation		✓	✓	✓	✓	✓	6-10
		Mentoring with Contingent Reinforcement		✓		✓		✓	11-18
		Youth Employment with Education		✓	✓	✓	✓	✓	15-18
	Friends Who Engage in the Problem Behavior	Parent Training		✓	✓	✓	✓	✓	6-14
		Classroom Curricula for Social Competence Promotion		✓	✓	✓	✓	✓	6-14
		Afterschool Recreation		✓	✓	✓	✓	✓	6-14
		Mentoring with Contingent Reinforcement		✓		✓		✓	11-18
	Favorable Attitudes Toward the Problem Behavior	Classroom Curricula for Social Competence Promotion		✓	✓	✓	✓	✓	6-14
		Community/School Policies							
	Early Initiation of the Problem Behavior	Parent Training		✓	✓	✓	✓	✓	6-14
		Classroom Organization Management and Instructional Strategy		✓	✓	✓	✓	✓	6-10
		Classroom Curricula for Social Competence		✓	✓	✓	✓	✓	6-14
		Community/School Policies		✓					all
	Constitutional Factors	Prenatal/Infancy Programs		✓	✓	✓	✓	✓	prenatal-2

### ***Suggested Readings***

- Brewer, D. D., Hawkins, J. D., Catalano, R. C., & Neckerman, H. J. (in press). **Preventing serious, violent and chronic juvenile offending: A review of evaluations of selected strategies in childhood, adolescence and in the community.** In Howell, J. C., Krisberg, B., Hawkins, J. D., & Wilson, J. J. (Eds.), Sourcebook on Serious, Violent, and Chronic Juvenile Offenders. Thousand Oaks, CA: Sage.
- Catalano, R.F., Hawkins, J.D., Krenz, C., Gillmore, M., Morrison, D., Wells, E., Abbott, R. (1993). **Using research to guide culturally appropriate drug abuse prevention**, Journal of Consulting and Clinical Psychology, 61, 804-811, 1993.
- Harachi, T.W., Ayers, C.D., Hawkins, J.D., Catalano, R.F., Cushing. (1995) **Empowering communities to prevent adolescent substance abuse: Results from a risk- and protection-focused community mobilization effort**, Journal of Primary Prevention, 1995. In press.
- Hawkins, J.D., Catalano, R. F., Miller, J. Y. (1992). **Risk and Protective Factors for Alcohol and Other Drug Problems in Adolescence and Early Adulthood: Implications for Substance Abuse Prevention**, Psychological Bulletin, 1992, Vol. 112, No. 1, 64-105.
- Hawkins, J.D., Catalano, R.F. & Associates. (1992). **Communities That Care: Action for drug abuse prevention.** San Francisco: Jossey-Bass, Inc., 1992. Available through Developmental Research and Programs, Inc., Seattle, WA.
- Wong, S., Hawkins, J.D., Catalano, R.F., Brewer, D.D. (1995) **A guide to preventing serious, violent and chronic juvenile offending.** Seattle, WA: Developmental Research and Programs, Inc.,. 1995. Report prepared for OJJDP.

### Appendix 1.

#### Risk and Protective Factors, and the Number of Risk and Protective Factor Items, Included in the *Communities That Care*® Youth Survey .

		No. of Items
<b>Community Domain</b>		<b>30</b>
<i>Risk Factors</i>	Low Neighborhood Attachment	3
	Community Disorganization	5
	Transitions and Mobility	4
	Laws & Norms Favorable to Drug Use	10
	Perceived Availability of Drugs and Firearms	5
<i>Protective Factors</i>	Rewards for Conventional Involvement	3
<b>School Domain</b>		<b>11</b>
<i>Risk Factors</i>	Academic Failure	2
	Low Degree of Commitment to School	4
<i>Protective Factors</i>	Opportunities for Involvement	2
	Rewards for Conventional Involvement	3
<b>Family Domain</b>		<b>35</b>
<i>Risk Factors</i>	Poor Family Management	6
	Poor Family Discipline	3
	Family Conflict	3
	Family History of Antisocial Behavior	6
	Family Attitudes Favorable to Antisocial Behavior	6
<i>Protective Factors</i>	Family Attachment	6
	Opportunities for Positive Involvement	3
	Rewards for Conventional Involvement	2
<b>Peer-Individual Domain</b>		<b>53</b>
<i>Risk Factors</i>	Rebelliousness	3
	Early Initiation of Antisocial Behavior	8
	Antisocial Behavior	8
	Attitudes Favorable to Antisocial Behavior	4
	Attitudes Favorable to ATOD Use	4
	Peer Antisocial Behavior	6
	Peer ATOD Use	4
	Peer Rewards for Antisocial Behavior	4
	Sensation Seeking	3

<i>Protective Factors</i>	Religiosity	1
	Peer Rewards for Conventional Behavior	4
	Belief in the Moral Order	4

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### Alcohol, Tobacco, and Other Drug Use

Alcohol	<u>Measures:</u>	Lifetime Use	
Cigarettes		Past Year Use	
Chewing Tobacco		Past 30 Days Use	
Marijuana	<i>Responses:</i>	<i>0 Occasions</i>	
Hashish		<i>1-2 Occasions</i>	
Cocaine		<i>3-5 Occasions</i>	
Crack Cocaine		<i>6-9 Occasions</i>	
LSD and Other Psychedelics		<i>10-19 Occasions</i>	
Steroids		<i>20-39 Occasions</i>	
Heroin		<i>40 or More Occasions</i>	
Other Narcotics			
Inhalants		Age of First Use	
Barbiturates and Tranquilizers	<i>Responses:</i>	<i>Grade 4 or earlier through</i>	
Over-the-Counter Medications		<i>Grade 12</i>	
Alcohol	<u>Measure:</u>	Number of Times in the Past	
		Two Weeks Student	
		Consumed 5 or More	Drinks
		in a Row	
	<i>Responses:</i>	<i>None</i>	
		<i>Once</i>	
		<i>Twice</i>	
		<i>3-5 times</i>	
		<i>6-9 times</i>	
		<i>10 or more times</i>	

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### Demographics

Age	9 to 18
Grade	6 to 12
Sex	Male or Female
Ethnic Group	African-American, Anglo/White, Asian/ Pacific Islander, Hispanic, Native American, Other, More than One of These Groups

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Family Status	Two-Parent Family, Single-Parent Family, Living with Other Adults, Living in Foster Home
Number of Older/Younger Siblings	0 to 6 or more
Language Used Most Often at Home	English Spanish Other

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